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(56) Documents Cited
GB 2318043 A
DE 019538474 C
US 4619009 A
US 1900771 A
CN 001056410 A
US 5208933 A
US 4168560 A

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(54) Abstract Title
A mini dishwasher

(57) A mini dishwasher is a hand held machine that is used to aid washing dishes. The machine incorporates an electrical circuit, which is powered by batteries. The dishwasher has an interchangeable brush unit 8, plus replaceable washing up liquid dispensing unit 12 fitted to the base. When operated pushing the switch the brush head spins and on contact with crockery cleans the surface. The operator pressing the bellows 12 at the end of the dishwasher also squirts washing up liquid on to the brush head via the tubing inside the machine.

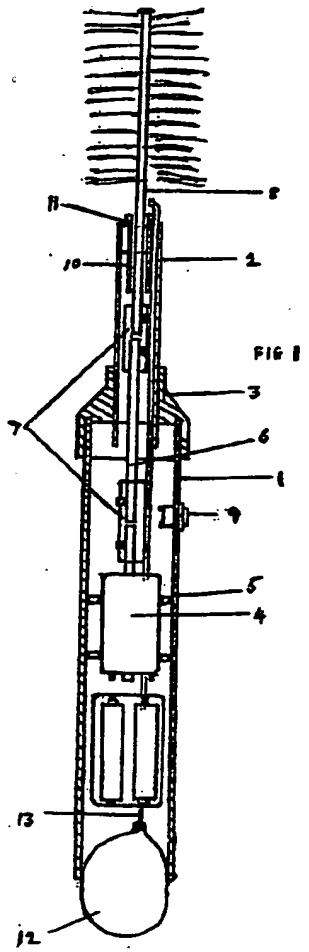

FIG 1

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FIG 3

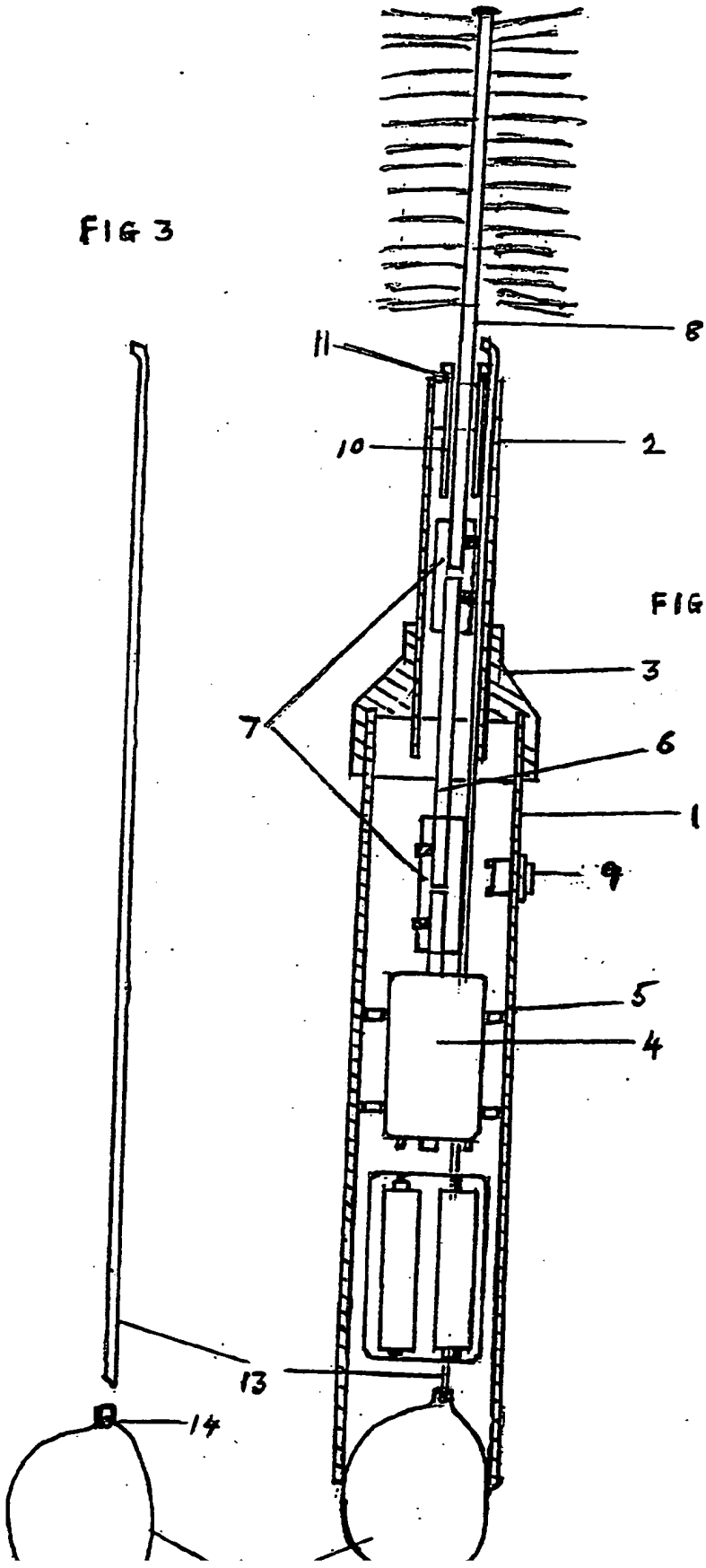

FIG 1

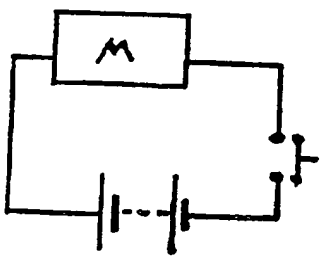

FIG 2

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The Mini Dishwasher

This invention relates to a hand held dishwasher.

Dishwashing machines are generally large machines that are connected to both water and electricity supplies. The dishes are placed inside the machine then washing up liquid is added to a draw or suitable container. The machine is switched on and the washing machine goes through a washing cycle. At the end of the cycle the machine stops and the dishes are removed. Current dishwashing machines are generally kept in kitchens or are a permanent fixture to the kitchen.

Dishwashing machines are a relatively expensive piece of kitchen equipment and could be classed as a luxury for most households in Britain today. They are not portable devices or used in a person's hand.

According to the present invention there is provided a portable mini dishwashing machine. The machine is held in ones hand and used as an aid for washing dishes. The machine is electrically operated. There is a changeable brush unit, plus washing up liquid dispensing container.

The dishwashing machine casing is made from plastic tubing. Batteries power the machine. The unit includes a splash proof push switch and an electrical motor.

A specific embodiment of the invention will now be described with reference to the accompanying drawing in which:

Figure 1 shows a cross-section of the dishwashing unit.

Figure 2 shows the electrical circuit

Figure 3 shows the washing up liquid dispensing unit and tubing.

Referring to the drawing the mini dishwasher comprises a main body. The body has two tubular outer casings 1 and 2 these are joined together by a step down joint 3. Body 1 supports the motor 4 on flexible mountings 5 to the outer case. The motor is connected to the brush unit 6 via a drive shaft, which has two connecting couplings 7. These are necessary so that the brush unit 8 is interchangeable with different brush heads.
Pressing the splash proof push switch 9 operates the unit, the brush will spin whilst the switch is depressed, and once released the motor will stop.
See Fig 2, this is a simple circuit diagram showing how the unit is operated.
The brush is placed on the crockery that is to be cleaned and the spinning brush scrubs the surface.
The shaft connected to the brush runs in an aluminium sleeve 10 at the top of the sleeve is a rubber seal 11 to prevent water entering the unit.

The washing up liquid dispensing unit Fig 3 is connected to the base of the unit 12. It is made out of a flexible plastic material. The dispensing unit is a tight fit in to place

this creates a water tight seal. As the bellows 12 is pushed in to place the small tube 13 which has a sharp end made for this purpose pierces the top of the unit. There is a small ball 14. which is in the top of the dispensing unit. which is displaced as the unit is pushed in to position. The tight fit also prevents leakage of the fluid. To dispense washing up liquid one squeeze the end of the bellows 12; this displaces washing up liquid up the small tube to the top of the device where it is sprayed on to the brush unit. Hence providing washing up liquid to assist with the dishwashing process. The dispensing unit is replaceable.

The two AA batteries 16 are replaceable.

Claims

1 The mini dishwasher comprises a main body; the body supports the electrical circuit, the interchangeable brush unit and the washing up liquid dispensing unit.

2 As claimed in 1 the two tubular outer casings are joined together by a step down joint.

3 As claimed in 1 the electrical motor is supported by flexible mountings to the outer case.

4 As claimed in 1 the brush unit is connected to the motor via a coupling.

5 As claimed in 1 and 4 the shaft connected to the brush runs in an aluminium sleeve that has a seal at the top to prevent water entering the unit.

6 As claimed in 1 the washing up liquid dispensing unit is connected to the base of the mini dishwasher, a watertight seal is achieved by the push fit in to the base.

7 The washing up liquid dispenser claimed in 1 and 6 comprises a bellows, which is pierced by the sharp end of the tubing held in the body of the mini dishwasher, the ball fitted to the top of the bellows is displaced as it is inserted and the sleeve of the bellows is sealed on to the metal tubing.

8 A mini dishwasher substantially as described herein with reference to Figures 1 – 3 of the accompanying drawings.

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Claims searched: 1-8

Examiner: Brian B Caswell
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Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.T): A4K (KBA + K191)

Int Cl (Ed.7): A46B

Other: Online databases: WPI; EPODOC; JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2318043 A	(MALSKI)	1,3,4
X	US 5208933	(LUSTIG) see especially Figs 1,2,11	1,3,4
X	US 4619009	(ROSENSTATTER)	1-4
X	US 4168560	(DOYEL)	1,3,4
A	US 1900771	(SIEGEL)	
X	DE 19538474 C	(HANSMANN)	1
X	CN 1056410 A	(ZHAO) see abstract	1

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.